



# APPRAISAL BULLETIN

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## NOTES ON THE A. P. H. A. METHODS OF NEIGHBORHOOD APPRAISING

**I**N working out its methods for appraising residential neighborhoods, the American Public Health Association recognizes several fundamental facts. For example, it points out that neighborhoods do not deteriorate through age alone. If it stopped with this perfectly obvious conclusion, its studies in this field would be worthless. However, it doesn't stop at this point. It goes on in an attempt to enumerate and classify the factors (other than age) that lead to neighborhood deterioration. Furthermore, after classifying these detrimental factors, it assigns values (or penalty points) to them and is thereby able to evaluate the quality of a neighborhood in precise terms.

To be sure, it is not able to evaluate neighborhoods in terms of dollars, and it's probably not interested in such an evaluation, but its methods will point out with a good deal of precision why different residential land values occur in different localities. Almost any good real estate broker, and certainly most experienced appraisers, can also tell why residential land values vary. Unfortunately, however, the completeness and accuracy of their explanation will vary in almost direct proportion to the amount of experience they have had. In other words, the correctness of an appraisal depends upon "sound judgment" and "years of experience." Now there is certainly no substitute for either, but, as we have pointed out before, we feel that entirely too often an appraiser will take refuge in these two phrases rather than explain the reasons that lead to the exercise of this "sound judgment." There is reason to believe that in some cases the appraiser cannot tell just why he thinks one piece of land is more valuable than another. He may be right, but he is right because of a hunch and not through sound judgment. Of course, this makes no great difference unless he is asked "why," and his answer will often lead to the exasperation of a client or to the bewilderment and frustration of an understudy. His clients' reactions are certainly no concern of ours, but we are inclined to worry a bit over the lack of thorough instruction being given young appraisers. They have neither sound judgment (in property evaluation) nor long years of experience. They need something to tide them over until they can acquire these elusive qualities. It may be a new system or a refinement of an old one, or simply a different way of thinking, but we feel that the approach used by the A. P. H. A. will not hurt any appraiser and is certain to help many of them, especially the new ones.

Some have asked why the A. P. H. A. takes a negative approach to value. Why does it use penalty points instead of bonus points? The answer is that it is not

attempting to arrive at value as most appraisers consider it. It is measuring the inadequacy of a neighborhood, and for this reason it starts with a certain standard and deducts for deficiencies. Obviously, if the factor measured is above the standard, it is not deficient and A.P.H.A. is not concerned with it. Remember, one thing A.P.H.A. is trying to do, in a broad sense, is to stop the spread of blighted areas by providing a set of standards upon which minimum housing requirement ordinances can be based. It is not particularly concerned with the housing in the better neighborhoods. It is trying to correct bad housing and to keep borderline housing from becoming bad. Its aim is to produce the methods whereby answers may be found to the following questions:

1. What districts are in need of demolition and rebuilding?
2. What districts lend themselves to continued residential use?
3. What districts warrant capital investment and in what manner?
4. Will objectionable environmental influences in the long run nullify rehabilitation of the dwelling structures (in a certain district)?

These are all realistic, sensible questions that need answering. They are questions that should have been asked (and answered) before many of the public housing projects were erected.

The following paragraphs enumerate the factors the A.P.H.A. considers when evaluating a residential neighborhood, and give a brief description of the manner in which the penalty points are scored:

1. Coverage by structures: The total penalty points are arrived at by adding those for major structures to those for minor structures. The figures that are used are floor areas as a percentage of total block area. Thus the ground area of all two-story buildings is multiplied by two, the ground area of all three-story buildings is multiplied by three, etc. All floor areas of major structures in the block are totaled and the percentage is calculated. More penalties are given for higher buildings. The points range from 0 for coverage below 20% up to 24 points for 70% (and more) coverage with six-story (or higher) buildings. Minor structure coverage (sheds, garages, chicken houses, etc.) penalty points range from 0 for coverage of less than 2% of the block area to 13 points for coverage of 10% or more. Although the total points for these two factors add to 37, the maximum penalty that is assessed is 24 points.

2. Residential building density: Two parts also make up this penalty score. They are:

a. Ratio of total residential floor area to area of the premises containing dwellings in the block. Penalties range from 0 for less than a 1-1 ratio, up to 20 points for a 4-1 ratio (four square feet of residential floor area for one square

foot of premises).

b. The percent of the premises area in the block that contains mixed use buildings (business and residential). Penalties range from 0 for less than 10%, up to 16 points for blocks where the percentage runs up to 80% and more. The total penalties for these items never exceed 20, even though the theoretical total is 36 (see item 1 above).

3. Population density: This factor attempts to measure land crowding and not occupancy crowding. It is based upon the square feet of residential floor area (see item 2) per person. It is computed for an entire block.\* The penalty points range from 0 for an area of more than 350 square feet of residential floor area per person to 10 points for an average of less than 150 square feet per person.

4. Residential yard areas: This factor measures inadequacies of yard space. In addition to being an indication of land crowding, inadequate yards tend to force the children to play in the streets. A.P.H.A. considers 625 square feet of continuous yard space as a standard minimum (provided it is at least 20 feet wide) and penalizes anything below that. Here, again, the penalty is assessed against the entire block. If the residential premises in the block with substandard yards are less than 10%, no penalty is given. The maximum number of penalty points is 16 for a block with more than 70% of the premises having substandard yards (with an average of seven dwelling units per residential premise).

5. Areal incidence of nonresidential land uses: The area of all commercial, industrial and mixed business and residential land in the block is totaled and penalty points are assessed on a percentage basis. The points range from 0 for no industrial, commercial or mixed use, up to 13 points for 50% or more commercial, industrial or mixed use.

6. Linear incidence of nonresidential land uses: This factor measures the frontage of commercial, industrial or mixed use in the block. It is also figured on a percentage basis. Commercial, industrial and mixed use frontages opposite the block being surveyed are also included. Penalty points range from 0 for no industrial, commercial or mixed use frontage, up to 13 points for 50% or more objectionable frontage. Inclusion of the opposite frontages makes it possible for a block to be penalized 13 points, even though it has no commercial, industrial or mixed uses within its boundaries. This would occur when such a block was surrounded by uses of this type. However, such a block would not be penalized under item 5 because none of its area would be covered with nonresidential uses.

7. Specific nonresidential nuisances and hazards: Penalty points for these factors are:

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\*Naturally we realize that residential appraisers can seldom make the type of survey required for such an evaluation. However, it doesn't hurt to think along these lines.



Noise and vibration - range from 2 for each moderate source to 20 for each extreme source.

Objectionable odors - range from 2 for each moderate source to 20 for each extreme source.

Fire and explosion - range from 3 for each moderate source to 24 for each extreme source.

Vermin, rodents, insects - range from 2 for each moderate source to 20 for each extreme source.

Localized dust and smoke - range from 1 for each moderate source to 16 for each extreme source.

Glare at night - range from 1 for each moderate source to 6 for each considerable source.

Dilapidated structure or unsanitary vacant lot - 2 points.

The maximum combined penalty for all of these factors is 30 points.

8. Hazards to morals and the public peace: This factor attempts to measure the detrimental influences that bars, taverns, smoke shops (and other handbook locations), retail liquor stores, pool halls and other undesirable uses have on a residential neighborhood. The basis of the penalty points is the concentration of undesirable establishments in the areas adjoining the neighborhood being appraised, and the concentration within the neighborhood itself. The blocks immediately adjoining the neighborhood are the ones included. Classification of these hazards is as follows: Extreme - those zones where six or more such establishments occur within adjoining frontages of one or two blocks. Ten penalty points are assessed against an extreme concentration. Considerable - zones where four or five establishments occur in one or two frontages. Six penalty points for considerable concentration. Moderate - zones where two or three establishments occur in one or two frontages. Two penalty points for moderate concentration.

9. Smoke incidence: This detrimental factor is also separated into three different grades: extreme; considerable; and moderate (or none). The varying degrees depend upon the location of the appraisal area in relationship to sources of smoke and in relationship to the direction of the prevailing wind. Residential blocks located within an "extreme" zone are penalized six points. Those located in a "considerable" zone are penalized three points. There is no penalty for those blocks located in a zone where the smoke incidence is "moderate" or "none."

10. Street traffic: The A. P. H. A. methods of measuring the detrimental effects of street traffic get a little too involved for complete discussion in a bulletin of this length. Basically, A. P. H. A. considers three different character-

istics in evaluating these effects. The first is the character of the traffic passing the appraisal area. A. P. H. A. uses four different classifications for the character of traffic: 1. major traffic artery; 2. minor traffic artery; 3. commercial service street; and 4. residential service street. Naturally, the heaviest penalty points are scored against the areas bounded by major traffic arteries, while the lightest penalties are counted against those areas bounded by residential service streets.

The second factor that A. P. H. A. considers is the setback of residential structures. Blocks where the structures are set back less than ten feet from a major traffic artery receive the maximum penalty of 20 points. This ranges downward to no penalty in the following instances: 1. setback of 100 feet or more from a major traffic artery; 2. setback of 80 to 99 feet from a minor traffic artery; 3. setback of 60 to 79 feet from a commercial service street; and 4. setback of 30 to 39 feet from a residential service street. The third factor is the width of the street (paving) with the heaviest penalties being scored against traffic arteries (major or minor) with a width of less than 17 feet. (One fact that eludes us is how such a narrow street could develop into a major or minor traffic artery, but we suppose it is possible.) The pavement widths are "adjusted" for certain conditions. For example, if there is one-way traffic on a street, its width is "considered" twice its actual dimensions. If parking is prohibited on one side of a street, nine feet are added to the reported pavement width, and if parking is prohibited on both sides, 18 feet are added to the reported pavement width.

This factor also penalizes blocks where the buildings are set too close to street car lines. The maximum is ten penalty points for blocks set back less than 19 feet from a street car line. Blocks with setbacks of 100 feet or more require no penalties.

**11. Railroads and switch yards:** This factor is measured on the basis of the amount of noise, vibration and smoke emanating from railroads located in or near residential districts. There is little question that proximity to a railroad is detrimental to residential neighborhoods, but the measurement of this factor is rather involved.

There are four main points considered in assigning the penalties: 1. the amount of passenger and freight service; 2. the amount of smoke produced; 3. the design of the right-of-way (elevated, depressed or at grade); and 4. the distance the railroad is from the block frontage. Heaviest penalties (20 points) are naturally scored for primary or secondary switch yards or a primary railroad line located less than 100 feet from the block frontage and used by coal-burning locomotives at grade level. Tertiary railroad lines are considered the least objectionable and carry only a three- to six-point penalty when located less than 100 feet from the block frontage.

**12. Airports and air lanes:** No detailed method of measuring this factor has been recommended by A. P. H. A. This is because sufficient research has not been done. A. P. H. A. does, however, suggest a maximum of 20 penalty points

for those blocks located within close proximity to areas of excessive noise and in areas of possible crash landings.

**13. Surface flooding:** Twenty penalty points are the maximum for this factor. This amount is charged against any block that normally is more than two-thirds flooded one or more times a year. Annual floods covering one-third to two-thirds of the block carry penalties of 16 points, while annual floods of one-third of the block or less carry penalties of 13 points. Floods at less frequent intervals are considered not so detrimental. For example, if the block floods once every 11 years or more, the penalty points are: two for one-third inundation; five for between one-third and two-thirds inundation; and eight for more than two-thirds inundation.

**14. Swamps and marshes:** This factor is considered particularly undesirable if malaria-bearing mosquitoes are present. Blocks located less than 100 yards from swamps with malarial mosquitoes are penalized 24 points. The presence or absence of mosquitoes is the only point considered. If the swamp is in a zone where mosquitoes are controlled, the maximum penalty is three points for blocks located within 100 yards of such a swamp. Non-malarial mosquitoes from an uncontrolled swamp will cause a block located within 100 yards to be penalized ten points. As the distance from the swamp increases, the penalties decrease.

**15. Topography:** Topographical features that present serious accident hazards are considered but not penalized because no systematic way has yet been developed. The appraiser should nevertheless be on the lookout for sinkholes, pits, steep slopes or cliffs, open mine shafts or uncovered wells. He should also be aware of any subsoil conditions that might be considered unsafe or that would allow foundation settling.

**16. Inadequate sanitary sewer system:** This factor is evaluated on the basis of availability and adequacy of the sanitary sewers serving the block under appraisal. The heaviest penalty (24 points) is scored against those blocks served by sanitary sewers that backflood. The next heaviest penalty (20 points) is scored against those blocks with no sanitary sewer system available. If the system is simply inadequate for its present load, the block is penalized 13 points. If the system is unavailable but reasonably capable of being extended to serve the subject block, only five points are charged.

**17. Public water supply:** Here, too, this factor is scored on the basis of adequacy and availability. If no public water supply is available, the block is penalized 20 points. If it is inadequate, the block is penalized 13 points. If it is reasonably possible of extension, the penalty is only five points.

**18. Streets and walks:** We do not believe that the A.P.H.A. has been severe enough in its penalties for inadequate streets and walks. However, it should be remembered that it is principally concerned with safety and health, neither of



which is particularly affected by the absence of streets or walks. A.P.H.A. penalizes a block five points if it is unpaved and five points if the street has more than a 12% grade. It also penalizes three points if the block has no curb or gutter and five points if the block has no sidewalks. Its conception of paving is also vague since it considers a street to be paved if it has any kind of weather-proof or semi-dustproof coating.

19. Elementary public schools: Here, again, the A.P.H.A. is primarily concerned with health and safety and does not consider the quality of schooling available. Its chief aim is to penalize those blocks located a long distance from elementary schools and for dangerous pedestrian crossings en route to the school. Blocks located within one-third of a mile from elementary schools are not penalized for distance. Those located from one-third to two-thirds of a mile from a school are penalized three points and those located over two-thirds of a mile from schools are penalized ten points. If there are no dangerous pedestrian crossings en route to the school, the block is not penalized. If there are 1-1½\* dangerous crossings en route, three points are charged. If there are 2-2½ dangerous crossings, five points are charged. Those blocks located so that there are three or more dangerous pedestrian crossings are penalized eight points.

20. Public playgrounds: The penalty points for public playgrounds (and public play fields and other public parks) are arrived at in a very involved manner. However, the chief factors considered are: 1. walking distance; 2. density of use; 3. maintenance and equipment; 4. supervision; and 5. pedestrian crossings. The most important is walking distance - eight points being assigned to those beyond convenient range. The second most important is the safety of pedestrian crossings. A penalty score of five points may be assessed against blocks located in such a manner that three or more dangerous crossings must be made en route. The other three are considered less important. Density of use carries a penalty score of three points for 5200 people (or more) per acre. Poor equipment is penalized one point. There is a 20-point maximum for all deficiencies in this item (playgrounds, play fields, public parks).

21. Food stores: Residential blocks are penalized two points for each of the following types of stores that are not within one-third of a mile walking distance: dairy products, fresh vegetables and fruits, fresh meats, groceries, bread and bakery goods. A combined total of six points is the maximum penalty.

As we have already pointed out, nearly all appraisers will agree that these 21 items represent important factors in desirable residential locations. Inadequacies in any of them will result in some lowering of land value.

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\*This method adopts a rather unique means of classifying pedestrian crossings. Unprotected crossings of commercial service streets are counted as "½" a dangerous crossing. Other types that rate only a "¼" designation are minor and major traffic arteries protected by traffic lights and one-way minor and major traffic arteries.

We do not necessarily endorse the entire system used by A.P.H.A. Obviously a great deal of it is far too cumbersome and detailed to be used by the residential appraiser in the field. We do think, however, that the basic thinking is right and that the appraisal profession could do well to adopt some refinement of these methods - at least in instructing new members.